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AGRICULTURE

No. 50

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I. GENERAL INFORMATION

PLANTING OF MORE SUNFLOWERS URGED

Production Scale

Beijing RENMIN RIBAO in Chinese 23 May 79 p 2

[Article by Liu Xuewen [0491 1331 2429] of the Agricultural Science Office of Baicheng Prefecture, Jilin Province: "Rapidly Develop Sunflower Production"]

[Text] Sunflower as an oil plant has very high economic value having on the average approximately 30 percent oil and as high as 40-50 percent oil for those varieties used for oil production. It yields approximately 40 percent oil which is two to three times that of soybeans. The oil quality is good: the oil consists mainly of fatty acid and linoleic acid.

Sunflower oil is a semi-dry type oil. The color is clear and transparent and the flavor is fragrant and appetizing. It can stand prolonged storage and does not spoil easily. It has high nutritional value. At the same time, it is an important industrial raw material because of the excellent physical properties it possesses.

Sunflowers are highly adaptable to various types of soil conditions and have a high tolerance to various types of cultivation conditions. In fertile soil it can yield as much as 400-600 jin per mu. It can still yield more than 100 jin per mu in infertile, saline-alkaline soil. Newly cleared saline-alkaline soil has been found to become fit for planting other crops after 1 or 2 years during which time sunflowers were grown. As such, sunflowers have been employed as the pioneer crop to improve saline-alkaline soil. Therefore, sunflower is one of the most economical oil plants currently being planted in this country and so also possesses the greatest potential for further development in the future.

Before the establishment of the Republic, development of sunflower in this country was very slow. At that time, except for a small number of areas in Dongbei, Xinjiang and Hebai where sunflowers were cultivated on a large scale, in all other places sunflowers were usually planted only around the houses or along the edge of a field. After the establishment of New China, the party

and the nation paid attention to sunflower production so that the area in which sunflower was cultivated increased gradually. Progress has been especially rapid since 1956 when many sunflower varieties used for oil production were imported. In Changling County of Jilin Province, cultivation of sunflower has grown from spotty planting in the early days of liberation to 260,000 mu in 1976 with total production reaching 40 million jin. Thirty-six million jin of sunflower seeds was sold to the nation and an average of 19 jin and 7 liang of oil per person was sold to the nation.

Nevertheless, the scale of sunflower production over the entire nation is still not large enough, and is far from satisfying the needs of the people. If all the dry, saline-alkaline land north of the Yellow River and all other areas where sunflowers are grown could develop their sunflower production as Changling County did, then the total area in which sunflower is planted in the entire nation in 1980 could expand to twice what we have today, and the per mu yield could be raised to 1.5 times that of today. Calculating the oil yield based on 30 percent, the per-capita oil production of the entire nation could increase by more than one-half jin.

In order to achieve rapid development of sunflower cultivation the following four things must be done well.

1. We suggest that the Ministry of Agriculture organize a sunflower production base observation group to carry out a general investigation of the major sunflower production areas including western Dongbei, Nei Monggol and Hetao County of Ningxia, Xinjiang, Shanxi, Hebei, Shandong and northern Jiangsu. The plans should be formulated and production bases built on the basis of its findings and the production of sunflower should be developed in a systematic and orderly manner.

2. The related economic policy must be studied in earnest and any necessary adjustment must be made with sincerity. Although sunflower production has been listed among the national economic plans today, there are some regions where the income from the sale of sunflower seeds can not top the norm of the government purchase of oil and fat thus adversely affecting their sunflower production. The government purchase does not make any distinction between an oil variety and a feed variety, nor does it pay any attention to the high and low of the kernel rate or oil yield rate. Everything is treated as equal with the same price. The long existing problems concerning the standard of grading and the irrational purchase price have never caught the attention of the grain department and have never been solved. The incentive policy of returning oil and cake to the people for that portion of over purchase has never been honestly carried out. There is no unified system of government purchase, and so there is no unified government purchase price. These problems must be solved conscientiously.

3. A variety of sunflower developed especially for the high oil yield and low chaff yield should be popularized. We suggest that each area act according to what the local conditions dictate and adopt either the "pioneer" or "white No 3" variety, and at the same time, select a particular new variety that is suitable for local production.

4. The organization format of the present scientific research co-op group is inadequate for developing overall assault on the sunflower scientific research work today. We suggest that a sunflower scientific research center be built at some suitable site.

Increased Cultivation

Beijing RENMIN RIBAO in Chinese 27 May 79 p 1

[Article: "Ministry of Agriculture Dispatches Circular Demanding Development of Sunflowers; All Areas Having Suitable Conditions Must Include Sunflowers as the Major Oil Plant"]

[Text] XINHUA, Beijing, 26 May--The Ministry of Agriculture recently issued a circular demanding that each area emphasize development of sunflower cultivation in order to increase the supply of edible vegetable oil.

The circular pointed out that sunflower is one of the best oil plants. It possesses excellent adaptability, strong resistance to adverse conditions and a large oil content. Its oil content is as high as 40-50 percent for an oil production variety which is only lower than that of sesame and is higher than that of soybean. Its effect on lowering cholesterol is even better than corn oil. In recent years, many nations of the world attach importance to the development of sunflower production. Of all vegetable oil production of the world in 1960, sunflower oil placed fourth after soybean, peanut and cotton seed oil. Since 1974, it has occupied second place.

In the circular the Ministry of Agriculture emphasized that those areas having suitable conditions for cultivation of sunflowers must list it under the heading of important oil plants and employ a large scale cultivation scheme in growing sunflowers, and thus gradually establish sunflower production bases. At the same time, each area must strive to popularize good varieties for the production of oil in its seed work plan of each individual area and establish sunflower original variety bases in order to satisfy the demand and need for the development of sunflower production.

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FORESTRY CENTERS RESEARCH COMPREHENSIVE UTILIZATION METHODS

Beijing GUANGMING RIBAO in Chinese 31 May 79 p 2

[Article by Du Yali [2629 0068 0448] and Wang Wu [3769 2976]: "Over 900 Forestry Centers Begin Comprehensive Utilization Research Projects"]

[Text] China already has over 900 state forestry centers which emphasize afforestation and management. While actively carrying out research in the comprehensive utiliztion of irregular pieces of lumber, leftover woodcutting materials, and forestry sideline special products resources. The purpose is to advance our forestry production along the path toward using a forest to raise a forest.

Since liberation many state forestry centers saved great amounts of materials by carrying out movements to transform wastes into treasures and make comprehensive utilization of materials. This has greatly increased our forestry production. In the last few years the destruction wrought by the extreme left line of Lin Biao and the "gang of four" changed the research work on comprehensive utilization into "not working in one's proper occupation" and "putting money in command." The result was that most state forestry centers with great losses discarded, burned or cheaply sold their leftover cutting materials and irregular lumber. Since smashing the "gang of four" many of the state forestry centers have vigorously re-introduced comprehensive utilization research movements.

The Forestry Bureau of Leizhou [7191 1558], Guangdong began research on the comprehensive utilization of eucalyptus trees in 1963. Nineteen years of study has proven that the entire eucalyptus tree is a veritable treasure. The branches and crotches are materials for making paper and manmade fibers, the tree leaves can be refined for perfumes and medicinal material--eucalyptus oil, after oil steaming the leaves can be processed into glue and used to tan hides, the bark can also be made into a filler for uric-cork [niao shuan [1443 2633]] resins. At

present this bureau has achieved an over 95 per cent effective utilization of the entire eucaplytus tree. In the last 19 years the eucalyptus tree alone has produced income of over 13 million yuan, this is 3 million yuan over national capitalization of this forestry bureau.

The Laoshan [5701 1472] forestry center of Jiangsu not only processes waste wood materials into products but also investigates domestication of such fungi as tremella, black wood-ear [Auricularia aurcula-judae], the tuber of elevated gastrodia [Gastrodia elata], Poris cocos, and mushrooms for human consumption and materia medica. They have accomplished artificial cultivation of hedgehog hydnum [Hydnum erinaceus] by transplanting wild fungi from the forests on wood chips, cutting the resulting growth into strips. This medicine has undergone evaluation and clinical application by 35 units including the Nanjing University Biology Department, the Nanjing Pharmaceuticals Research Institute and has been verified as a relatively effective cure for stomach disorders with an effective cure rate of 84.7 per cent. It also has a certain degree of effectiveness in curing cancers of the stomach and the esophagus and is welcomed by medical workers and patients alike.

In order to staisfy the needs of agricultural production and the people's livelihood many state forestry centers are processing waste materials into such small-scale wood products as washboards, food chopping blocks, farm implement handles and educational equipment. Some also process waste materials into fine works of art. Because these state forestry centers have successfully carried out comprehensive utilization the people's income has increased in recent years, made up for insufficient state capitalization and increased the pace of forestry center construction.

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BRIEFS

FORESTRY TRAINING COURSE--Harbin, 20 Jun--The Maoershan branch of the Northeast China Forestry College recently held a graduation ceremony for 165 forestry bureau directors of forest zones from Sichuan, Gansu, Liaoning, Jilin and Heilongjiang. Luo Yuchuan, minister of forestry, made a special trip from Beijing to preside over the ceremony. It was the first training course offered to forestry cadres at county and regimental farm levels by the college at the request of the Ministry of Forestry. During their half year's training, the students studied philosophy, political economics, forestry and other related courses, [Beijing XINHUA Domestic Service in Chinese 0136 GMT 20 Jun 79 OW]

GUIZHOU, SICHUAN AFFORESTATION--Since late March this year, the Chengdu Bureau of the Civil Aviation Administration of China has dispatched nine airplanes to carry out afforestation seeding operations in Guizhou and Sichuan provinces. By the end of May, more than 1,000 hours and 626 sorties have been flown covering an area of more than 2.4 million mu and fulfilling 46 percent of the year's seeding plans. [Beijing Domestic Service in Mandarin 1000 GMT 3 Jun 79 OW]

CSO: 4007

'FUJIAN RIBAO' URGES CRASH TRANSPLANTING OF LATE RICE

Fujian Fuzhou Provincial Service in Mandarin 0300 GMT 22 Jul 79 HK

[Report on FUJIAN RIBAO 22 July commentator's article: "Complete Transplanting Late Rice Seedlings Before Autumn Begins"--first discussion on launching the movement to surpass early rice production with late rice production]

[Excerpts] The article said: Under the encouragement of the spirit of the 3d plenum of the 11th Central CCP Committee, the per-mu yield and total yield of our province's early rice will surpass the highest past levels. The current fighting tasks facing us are to advance on the crest of victory, carry out the movement to surpass early rice production with late rice production and fulfill and overfulfill the whole year's grain production tasks.

According to the experiences of past years, a key link in whether or not we can reap a bumper autumn grain harvest lies in whether or not late rice can avoid the autumn cold. We estimate that this year's autumn cold might arrive earlier than in past years. In addition, early rice transplanting was generally delayed in all places this year and most of the strains sown have been intermediate and late-maturing ones. Furthermore, since the beginning of summer, there have been high temperatures and drought in some places which have adversely affected the crash sowing. As a result, we have only 10 to 15 days left of the entire busy season of reaping and sowing. We must fully realize this new situation and characteristic, grasp every second and go all out to do well in fighting the battle of crash reaping and sowing.

The article pointed out: Currently, in some units and places, leadership and work forces have not been adequately concentrated, the role of some agricultural machinery has not been brought into full play and the progress of reaping and sowing has not been fast enough. We must rapidly eliminate all these obstacles.

The article demanded: All places must deeply publicize the spirit of the third plenum and the second session of the Fifth NPC, publicize the important significance of being able to surpass this year's early rice production with

late rice production, overcome self-satisfaction, slackened efforts and fearing difficulties, and bring the enthusiasm of the cadres and masses into full play under the common wish of wholeheartedly advancing toward the four modernizations. In some places where drought has occurred, we must certainly carry forward the spirit of working arduously, organize the work force, tap water resources, fight drought, strive to carry out crash sowing and find all means to fulfill summer sowing tasks.

Party committees at all levels must concentrate their main efforts to seriously change their work style, emancipate their minds, go deep into the realities of life, carry out investigations and studies, share comforts and hardships with the masses, and correctly command and seriously grasp every link in crash reaping and sowing. While we are trying to insure that a bumper early rice harvest be reaped, we should also try to guarantee that the tasks of transplanting late rice seedlings according to the scheduled time be accomplished. Mountainous areas should complete the work no later than 1 August, areas in high mountains should finish even earlier and coastal areas should finish no later than the beginning of autumn [7 August]. We must pool the wisdom and efforts of everyone to do well in fighting the first battle of surpassing early rice production with late rice production.

CSO: 4007

'FUJIAN RIBAO' COMMENTS ON FULFILLING STATE GRAIN QUOTAS

Fuzhou Fujian Provincial Service in Mandarin 0300 GMT 23 Jul 79 HK

[Report on FUJIAN RIBAO 23 July commentary: "Quickly and Successfully Fulfill State Summer Grain Purchase Quotas"]

[Excerpts] The commentary said: Since this year, we have conscientiously implemented the spirit of the third plenum of the party Central Committee and a series of guiding principles and policies on developing agricultural production issued by the central authorities and mobilized the enthusiasm of cadres and commune members. As a result, this province has reaped a bumper harvest of early rice. The bumper harvest of early rice is very advantageous to fulfilling state summer grain purchase quotas and further promoting grain work. However, we must not believe that no problems exist in fulfilling state summer grain purchase quotas.

The commentary said: We must watch out for and resolve some current ideological tendencies. Some people believe: Since we have increased grain output this year, we should keep more for ourselves and sell less so everyone can have more through distribution. This way of thinking lays one-sided stress on a part and is lopsided. We must uphold the distribution principle of paying equal attention to the interests of the state, the collective and the individual. Where appropriate, those areas which have reaped a bumper harvest of summer grain and those communes and brigades which have increased grain output may keep more grain for themselves in accordance with policies. However, they should also sell more grain to the state to support socialist construction. This province's state summer grain purchase quotas account for two-thirds of this province's annual state purchase quotas. Successful fulfillment of state summer grain purchase quotas is therefore of great importance.

Some people believe: Since we want to let the peasants rest and build up their strength, we must reduce state purchase quotas and increase sales volume. If this area's grain is insufficient, we may import and eat grain from the outside. The commentary said: This kind of view on improving the people's living standard which deviates from self-reliance and developing production is impracticable. According to initial calculations, this year's income of peasants will increase by over 100 million yuan due to increases

in the province's grain and edible oil purchasing prices. With bumper grain harvests for 2 consecutive years, grain rations for rural commune members have also increased. All these policies and measures are all aimed at protecting and developing agricultural productive forces and offering our peasants a chance to rest and build up their strength. To heal the serious agricultural wounds caused by Lin Biao and the "gang of four," it is necessary for the state where possible to temporarily import some grains. However, there is a great demand for grain in China which is a big country with a huge population. It is therefore impossible to meet demands by importing grain. Our current modernization construction needs to import some advanced technology and equipment. We cannot spend our limited foreign exchange primarily on importing grain.

Under the unified leadership of party committees at all levels, grain, finance, banking, communications, public security, commerce and public health departments must voluntarily act in close coordination and make due contributions to fulfilling or overfulfilling this year's state summer grain and peanut purchase quotas.

CSO: 4007

BRIEFS

TOBACCO TRANSPLANTING--By 10 June, Guizhou Province had transplanted flue-cured tobacco on some 846,000 mu, overfulfilling its quota by 5.7 percent. The transplanted area was 34,000 mu larger than in the corresponding period of last year. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 15 Jun 79 HK]

GUIZHOU RAINFALL--Guizhou received heavy rain on the evening of 9 June, the first heavy rain in the province this year. From 2000 hours on 9 June to 2000 hours on 10 June, Wengan, Sandu Shui Autonomous, Dushan, Pingtang, Luodian, Renhuai, Zunyi, Yuqing, Xifeng, Shiqian, Shibing, Huangping, Jianhe, Ziyuan Miao-bu-yi Autonomous, Zhenning bu-yi-miao autonomous and Guanling counties received more than 50 mm of rainfall with Wengan County's 87 mm being the highest. Another 19 counties received less than 20 mm. This rainfall is very favorable to our province's transplanting of seedlings and for our dry land crops. There will be another rainfall on 13 June with most areas receiving medium rainfall and some heavy. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 10 Jun 79 HK]

GUIZHOU PLA FARMING--According to incomplete statistics, by 11 June, 6,400 cadres and fighters from the Guizhou Military District had taken part in resisting drought and crash sowing, and 22 motor vehicles had been dispatched to resist drought. They had helped communes and brigades to reap 870 mu of wheat and transplant 1,500 mu of seedlings. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 16 Jun 79 HK]

GUIZHOU PLA DROUGHT RESISTANCE--Beginning 28 May, the commanders and fighters from organs of the Guizhou Military District, Guiyang Garrison and Guiyang PLA units have gone to Guiyang's suburban areas to support agriculture. Some 2,000 people have taken part in such activities so far. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 4 Jun 79 HK]

GUIZHOU PREFECTURE ANTIDROUGHT EFFORTS--Most of the leading cadres from the prefectural, county and district levels in Zunyi Prefecture have gone deep into the countryside to resist drought together with 1.6 million laborers. Some 819,000 mu of seedlings had been transplanted throughout the prefecture by 4 June, The prefecture has been experiencing drought since last winter. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 5 Jun 79 HK]

TONGREN PREFECTURE DROUGHT--The people in Tongren Prefecture have experienced drought since this spring, which has endangered sowing and cultivation and transplanting of seedlings. As a result, the prefectural CCP committee has held meeting of the standing committee to analyze this year's spring farming, reaffirm favorable factors and emphatically analyze unfavorable conditions. They have organized 71 members of the standing committees of the prefectural and county CCP committees to go deep into the frontline of resisting drought to lead the cadres and masses to plunge into the struggle of resisting drought and crash sowing. Consequently, some 80 percent of the labor or throughout the prefecture are now resisting drought and crash sowing. In addition, some 4,000 pieces of machinery including oil pumps and diesel engines have been mobilized. By 30 May, 60 percent of the areas in the prefecture had sunk wells and 32 percent had done transplanting work. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 4 Jun 79 HK]

CSO: 4007

PROPOSALS FOR MODERNIZATION OF AGRICULTURE IN BEIJING SUBURBS

Beijing RENMIN RIBAO in Chinese 27 May 79 p 2

[Article by XINHUA reporter Zhu Jigong [2612 4949 0501]: "Each Agricultural Science Society Belonging to the Beijing Science and Technology Association Submits Proposals"]

[Text] XINHUA, Beijing, 24 May--Encouraged by the spirit of the Third Plenary Session of the Central Committee of the CCP 11th Congress each agricultural science society belonging to the Beijing Science and Technology Association launched the "submitting of proposals and making contributions" surrounding the topic concerning modernization of agriculture in the Beijing suburbs. The Beijing Science and Technology Association held many symposiums, inviting many agricultural experts and science and technology workers over to discuss the matters concerning how modernization of agriculture in the suburbs of the capital may be accelerated. Each agricultural science society together with the experts searched and gathered domestic as well as foreign materials, examined and studied them carefully and taking into consideration the actual conditions of the Beijing suburbs submitted many valuable opinions and proposals.

Many valuable opinions were expressed by the experts concerning the matter of drafting plans for the modernization of agriculture in the Beijing suburbs. The experts considered that the natural conditions of the Beijing suburbs are relatively superior. The conditions are suitable for the production of the grain crops, oil plants and vegetables and favorable for the development of animal husbandry, pomiculture and forestry. At present, we must launch an overall assault on a series of projects including a general survey of the resources and agricultural division, planning and experiment. First of all, we must carry out a general investigation of the various aspects of the entire suburbs including agriculture, forestry, animal husbandry, farm machinery, water conservation, weather, hydrology and geology with an emphasis on soil survey. The overall modernization plan should be based on the result of this investigation. For the purpose of modernization different types of experimental agricultural structure should be built on areas having different conditions.

The experts further considered that the agricultural production in the suburbs of the capital must also satisfy its need for the subsidiary articles of diet and facilitate the development of its tourist industry. As such, agriculture, forestry and animal husbandry, all three must be coordinated and developed simultaneously. Special emphasis must be placed on forestry and animal

husbandry production and the production of feeds, vegetables, fresh as well as dried fruits. In the field of agriculture, the planting system of three planting and three harvesting of the Beijing area should not be extended "all the way" blindly. Adoption of any policy must be done rationally according to what the local circumstance dictates. Cultivation of the major grain crops of the Beijing suburbs--wheat and corn--is advantageous for the realization of mechanized planting and harvesting, which can increase the efficiency of labor production. It should be adopted according to the actual conditions.

At present, there are still 1.4 million mu of dry hillside land in the Beijing suburbs urgently in need of irrigation and further development. The low and wet land in the southeastern part of the suburbs has not yet been cured of its saline and alkaline soil and flooding still threatens 80,000 mu of low and wet land. The experts considered that establishment of the farmland water conservation project should move in the following direction: for the low and wet area in the plain the emphasis should be on the drainage and control of the underground water; for the hillside land the emphasis should be on the irrigation and maintenance of water and soil. A great effort must be spent on the development of spray irrigation, strengthening culvert construction so as to be able to raise the efficiency of irrigation rapidly.

The experts also had suggestions concerning strengthening of farm machinery management. There are a total of more than 5,000 large and medium tractors in Beijing, amounting to an average of one tractor per 1,280 mu. There are a total of more than 21,000 hand-operated tractors, an average of one tractor per 300 mu. The experts consider that these numbers have already surpassed the national goal for mechanization of agriculture that is to be achieved by 1980. These numbers also surpassed the average of one tractor per 1,700 mu that was achieved in the United States of America in 1940. Though Beijing may possess a large number of tractors the efficiency of its mechanized agriculture is very low. The major causes are: weak management, low technical standard of the machine operators, incomplete machines and incompatability between the planting system and crop arrangement and mechanization. The experts suggested that cadres who are enthusiastic about the mechanization of agriculture and are well-versed in management should be dispatched to the farm to lead farm machinery management work and to reform the management system and establish various rules and regulations concerning operation of the machinery. While strengthening the training and cultivation of new operators, retraining of the present operators on a rotating basis must also be carried out systematically. Farm machinery assembly work must be developed as soon as possible.

In the field of developing animal husbandry production the experts suggested that emphasis should be placed on the development of a factory-like process of chicken production and achieve low feed consumption, low cost and high yield. In the hillside land of the suburbs of the capital where there are grass resources, beef cattle and mutton sheep ranches should be developed while raising rabbits by the commune members should be positively encouraged. Industrialization of animal husbandry production must rely on the availability of the supply of mixed feed, thus the development of the mixed feed industry, petroleum protein industry, and industries for the production of secondary additive materials such as synthesized amino acid, lysine and vitamins.

The comrades who attended these symposiums felt that in order to be able to realize the aforementioned requirements the management system must be reformed so that production, processing and marketing of the agricultural and animal hustandry products can be unified, reducing the number of internal links and increasing the overall efficiency.

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ANCIENT UNDERGROUND RIVERBEDS USED AS RESERVOIRS

Beijing GUANGMING RIBAO in Chinese 27 May 79 p 1

[Unsigned article: "Research on Utilization of Ancient Riverbeds as Underground Water Reservoirs"]

[Text] Personnel of the Hebei Provincial Geography Institute together with the scientific and technological personnel of the Nangong [0589 1362] County Water Conservation Bureau have investigated the use of underground ancient riverbeds as reservoirs to store fresh water. Recently some initial results were obtained. This is an ideal water storage method, enabling the arid north China area to make complete and reasonable use of the available water resources.

While investigating the ancient riverbed distribution in north China the Hebei Provincial Geography Institute discovered that the Huang [7086], Qing [3237], Zhang [3361], Hutuo [3367 3108] and Tang 0781] rivers many times overran their banks and changed course, frequently overflowing and forming rows of multiple riverbeds. These rows are generally about 5 to 10 kilometers wide, the widest reaching 20 kilometers, with a total survace area of about 15,000 square kilometers, about 7,000 square kilometers in Hebei and 8,000 square kilometers in Shandong. This ancient riverbed has abundant accumulations of sand strata, the riverbottom averaging 30 meters deep. The degree of mineralization is generally less than 2 grams per liter of shallow strata fresh water. The total underground water storage capacity is about 39 billion cubic meters, with about 18 billion cubic meters in Hebei and 21 billion cubic meters in Shandong. If this entire riverbed is made into an underground reservoir and an underground water table 3 meters thick is positioned at a depth between 2 and 5 meters deep then this underground reservoir would have a capacity of 3.2 billion cubic meters, with about 1.5 billion cubic meters in Hebei and about 1.7 billion cubic meters in Shandong. This would make an ideal underground reservoir.

In order to determine the geologic structure of this ancient riverbed the scientific and technological personnes of the two units first made a geographic survey of the ancient riverbed by laying our 14 surface survey lines and positioning 965 survey points and then drilling 37 bores. After determining the specific electrical resistance and observing the bore samples they basically understood the degree of mineralization of the underground water and the water holding capacity of each layer. After making a distribution chart of the ancient riverbed they then carried out tests on water pumping, water flooding, water flow directions and the rate of flow. They thus obtained figures on the unit output of water, the water radius, water level, the vertical seepage coefficient, and the water supply rate. They also discovered that the annient riverbeds of the Huang, Qing and Zhang rivers in Nangong county have an area of 260 square kilometers. The reservoir banks are composed of substrata of clay and gravel and the reservoir bed is composed of clay and substrata of clay and are vertually free of seepage. The coefficient of seepage at water level and the rate of flow are quite small and the vertical seepage coefficeent is relatively great so that it is comparatively easy to refill the underground reservoir. The whole county has a total underground reservoir capacity of 4.8 billion cubic meters which can be adjusted by over 100 million cubic meters.

Ever since discovering these natural underground reservoirs the Nangong Water Conservation Bureau has actively carried out suitable construction, strengthened management, and established the Nangong Underground Reservoir Research Station to carry our scientific experiments on underground reservoirs. The county has drilled over 2,000 wells, built pumping stations, irrigation ditches, return ditches, drainage ditches and seepage resistant water ditches. After discovering the scope of the reservoir and completing the irrigation project, 160,000 mu of county land were irrigated.

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AGRICULTURAL MODERNIZATION SYMPOSIUM HELD IN HARBIN

Beijing Domestic Service in Mandarin 0415 GMT 23 Jul 79 OW

[Text] The Heilongjiang Provincial Scientific and Technological Association recently sponsored an academic discussion meeting in Harbin Municipality on agricultural modernization. Wang Renzhong, vice premier and minister in charge of the State Agri ultural Commission, addressed the meeting.

Attending this comprehensive academic discussion were over 200 representatives from 31 professional societies, including the Heilongjiang Provincial Agronomy Society, Forestry Society, Animal Husbandry and Veterinary Society and the Agricultural Machinery Society.

Also attending the discussion were representatives from scientific and technological associations, as well as agronomy societies, of Liaoning, Jilin, Shanxi, Anhui and Sichuan provinces.

Representatives attending the meeting discussed Heilongjiang Province's initial plans to speed up agricultural modernization and urgent problems in science and technology that have to be solved.

The meeting particularly discussed questions concerning the simultaneous development of agriculture, forestry, animal husbandry, sideline production and fishery, as well as ways to achieve mechanization and electrification in agriculture, apply chemicals in agriculture, cultivate fine strains and build more garden-type farmland.

Fully fostering democracy at the meeting, participants aired their views freely and carried on lively discussions on the concepts and details of agricultural modernization, standards to measure growth in agricultural modernization and how to achieve agricultural modernization.

Over 130 comprehensive and professional research papers and investigation reports were submitted to the meeting; of them, 27 research papers were chosen to be read at the meeting.

CSO: 4007

AGRICULTURAL RESEARCH INCREASES PRODUCTION

Beijing GUANGMING RIBAO in Chinese 31 May 79 p 1

[Article by Wang Enrong [3769 1869 2837] and Li Baozhong [2621 1405 0022]: "Heilongjiang Agricultural Research Personnel Cooperate in Focusing Efforts on Key Problems"]

[Text] Wang Enrong and Li Baozhong report that all agricultural science research units in Heilongjiang are taking aim on the key problems facing agricultural production and are cooperating in a strong offensive to actively build their basic contribution toward national strength in commercial grains.

The Heilongjiang provincial party committee in accordance with the Eleventh Party Plenum's important policy of concentrating major energies to quickly improve agriculture is taking as its base the principle of facing the present and uniting far and near. The Provincial Department of Agricultural Research has proposed 6 research projects, 5 major attacks on key problems and has make requests for 10 items of new technoloby. In order to complete the task the provincial committee first faced up to the problems of duplication in the structure of the scientific research organizations, scattered manpower, and duplication of work. The entire provincial scientific research structure carried out adjustments, suitably enlarged the authorized number of their personnel, increased the research funding and assigned the 17 separate agricultural and farm machinery research groups in the various districts to unified management under the Provincial Agricultural Research Academy and the Agricultural Mechanization Research Institu e. This was done in order to concentrate manpower and material resources and to overcome the most pressing problems in agriculture.

Heilongjiang has a brief frost-free period and low temperature damage is the major cause of great shortfalls in grain production, usually occuring every 3 to 5 years. Each time this occurs the lost production totals 5 or 6 billion jin, sometimes almost even 10 billion jin. Comrade Hua Guofeng has directed, "Heilongjiang

must develop early-ripening, high productivity food grains." Therefore this province has amde an attack on the technological key point of selecting a superior seed both resistant to low temperatures and of high productivity as the major research project in creating a new age of steady,high production. Each research unit has taken the quality of resistance to the threat of low temperatures as the main feature in the search for early ripening high productivity strains of maize, sorghum and rice. They have divided up the tasks and are cooperating in this struggle. From 299 strains in production they selected 88 interim strains and finally approved 23 early-ripening high productivity strains for distribution. In recent times the quantity of maize production in Heilongjiang is one-half the total grain production, however most of the maize is high productivity, late ripening strains which usually mature in 120 to 130 days,and when the temperature falls the range of production drops greatly and has a major influence on food grains production in this province. The Crop Breeding Research Institute of the Provincial Research Academy grasped this key point and followed a great many paths in carrying out their crop breeding tasks. Su Zhenyong [4725 2185 6978] and others developed "Longdan [7893 0830] no 1," which has a maturation of 95 to 105 days. During the 1976 frost-free period it underwent a 14 point test at the institute and at other locations, producing an average of 710 jin per mu. This year the area planted is being expanded. Hu Jie [5170 2638] and other of the Atomic Energy Research Laboratory developed the mutant sorghum strain "Fuxin [1607 1823] 7--3" which has the special characteristics of early ripening, short stalks, and close stems, with a maturation period of 105 to 110 days. Test plantings last year with a crop density of 28 stalks per square unit produced high quantity production of 1081 jin per mu. This has already been decided upon as the major plant type for the province's mountainous and semi-mountainous areas.

In recent years units of the agricultural research institutes and the technical schools have cooperated to develop deep cultivation methods and have made major reforms in the Heilongjiang cultivation methods. Deep cultivation methods are a continuation of the traditional cultivation methods in the Northeast, but they have absorbed foreign experience in reduced cultivation. Practice proves that after using the deep cultivation method, and under identical conditions, most food grains increased in production by 10 to 20 per cent, and such root tubers and stem tubers as sugar beets and potatoes increased by 20 to 25 per cent. Last year the Chinese Academy of Agricultural Sciences and the Agricultural Mechanized Cultivation Scientific Research Academy convened a conference for exchange of actual field experience with agricultural machines for 14 provinces, municipalities, and autonomous areas in order to

propagate deep cultivation methods (reduced cultivation methods). This year the provincial committee requested that over 50 per cent of the province be cultivated with deep cultivation methods.

In order to build a commercial grains base the broad technological personnel raced against time, struggled to make good time, fought to develop and become strong, and made an all out effort to get ahead. The Agricultural Mechanization Research Institute assumed the burden of developing the key technology for advancing agricultural mechanization and in accordance with the conditions for such machinery in the province, developed and popularized five research accomplishments including the "combination cultivator and planter."

In order to solve the problem of "returning the straw to the fields" in order to increase the organic matter content of the soil, one of the most important topics for the research departments is the study of the village energy resources. Farm villages in this province use mostly straw for cooking and heating so that great amounts of organic matter are simply wasted. The provincial leadership team office for popularizing swamp gas [methane] organized the concerned technological personnel to join forces in cooperation with the local peasants to spread the use of methane in parts of Heilongjiang. In accordance with local weather conditions they converted the outdoor methane pits into indoor methane pits and by thus surmounting the "barrier of over-wintering" changed the methane availability from "six months of happiness" to "year-round pleasure." According to incomplete statistics the entire province uses 32 billion jin of straw per year, so after methane is put into use this straw can be returned to the fields.

11,582
CSO: 4007

BRIEFS

HENAN PREFECTURE COTTON--The 1.5 million mou of cotton in Nanyang Prefecture have all received additional manure. Some 70 percent of them have been protected from insect pests. The prefecture has so far held three conferences on the management of cotton fields. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 22 Jun 79 HK]

CSO: 4407

BRIEFS

RAPESEED HARVEST--In Guangji County, steps have been taken to increase the rate of oil extraction from rapeseed. As a result, the oil extraction from 100 catties of oil has now risen from 2 to 8 taels. The county also reaped a bumper harvest of rapeseed this year, in which over 15.4 million catties of rapeseed, or an increase of 65.6 percent over last year, were gathered. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 25 Jun 79 HK.

GRAIN PROCUREMENT--Jingzhou Prefecture has overfulfilled its quota for procurement of summer grain. By 5 July, the prefecture had stored 300.54 million jin of summer grain in granaries, overfulfilling its quota by 22.2 percent. The prefecture had also stored some 51,000 dan of summer oil, some 5,000 dan more than in the corresponding period of last year. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 14 Jul 79 HK]

MIDSEASON RICE PRODUCTION--This year Zhongxiang County sowed midseason rice on 620,000 mu, some 90 percent of the total areas sown to paddy rice. The yields of midseason rice was 60 percent of the total yields of grain of the whole year. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 14 Jul 79 HK]

CSO: 4007

'HUNAN RIBAO' DISCUSSES DISTRIBUTION OF SUMMER HARVEST

Changsha Hunan Provincial Service in Mandarin 2315 GMT 25 Jul 79 HK

[Report on HUNAN RIBAO 26 July commentator's article: "Do Well in Grasping the Preliminary Distribution of Summer Harvest Which Is a Great Event"]

[Excerpts] Party committees at all levels must strengthen leadership, truly regard the preliminary distribution of summer harvest as a great event and do well in firmly grasping it. A few areas last year improperly handled the relationship between the state, the collective and the individual and laid particular stress on increasing the income of commune members. As a result, reserves and accumulations dropped too low. During this year's preliminary summer harvest distribution, we should sum up these experiences and lessons, do well in ideological work and educate our commune members to have an overall point of view, voluntarily do well in handling the relationship between the three parties and pay equal attention to the interests of the state, the collective and the individual.

We must pay attention to overcoming egalitarianism and uphold the principle of "distribution according to work and more pay for more work."

The article said: To guarantee the realization of the policy of "distribution according to work," we must urgently solve the problems in collecting overdrafts and arrears. There are many overdrafts and arrears in rural communes and brigades throughout the province which seriously affect the realization of the policy of "distribution according to work" and dampen the enthusiasm of our commune member for work. During this year's preliminary summer harvest distribution, we must be determined to rationally solve the problems in overdrafts and arrears and strive to reduce them to a minimum. Of course, while carrying out this work, we must deal with each case in the light of specific conditions. We must actively assist families with material difficulties in increasing their income. With regard to individual families which are incapable of paying back overdrafts and arrears, the masses may discuss their cases and offer them allowances drawn from the public welfare fund.

CSO: 4007

PARTICIPATION IN CRASH REAPING, SOWING URGED

Changsha Hunan Provincial Service in Mandarin 1100 GMT 21 Jul 79 HK

[Hunan Radio commentary: "Go to the Front of Crash Reaping and Sowing"]

[Excerpts] Our province's rural areas are currently carrying out an urgent battle of crash reaping and sowing. Whether or not we can fight this battle well depends mainly on the quality of leadership. This year's crash reaping and sowing is different from that of past years. Since the province's early rice was adversely affected earlier by low temperature and unceasing rain, the ripening season has been delayed several days in comparison with past years. In addition, since a larger area of a late-maturing strain of early rice has been sown and the growing stage of the late rice strain is long, the contradiction between the reaping and sowing seasons has been more outstanding than in past years. The leading comrades at all levels are required to go out of their offices and conference rooms to the front of crash reaping and sowing, carry out investigations and studies, know the new situation and contradiction and solve problems.

The Xiangtan County CCP Committee regards this year's crash reaping and sowing as the current overriding tasks in the rural areas. Apart from 2 of the 11 standing committee members who have remained in the organs to handle daily work and logistics work in crash reaping and sowing, the other 9 standing committee members have led some 200 cadres from county organs to go to the front of crash reaping and sowing, participate in labor, carry out investigations and studies and take command in the battle of crash reaping and sowing.

Crash reaping and sowing is the crucial moment for grain production. Whether or not we do well in this has an important bearing on reaping the whole year's bumper harvest. Rural cadres, especially leading ones in the whole province, must fully realize the important significance of crash reaping and sowing. So long as the leaders at all levels persist in simultaneously carrying out work, investigations, studies and commands and caring for the people's livelihood on the front of crash reaping and sowing, we can certainly mobilize the enthusiasm of the commune members in a still better way, insure fulfillment of crash reaping and sowing tasks according to the scheduled crop yield area, quality and time and reap a new bumper grain harvest this year in our province.

CSO: 4007

BRIEFS

HUNAN COUNTY AFFORESTATION--Gazhang County which is located in the mountainous areas, has great prospects for developing forestry. Early this year, the people in this county decided to take forestry as the main production task. Since last winter and this spring, 62,000 mou of trees have been planted throughout the county, equivalent to the total of trees planted in the previous 5 years. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 27 Jun 79 HK]

CSO: 4007

BRIEFS

JIANGXI COUNTY DROUGHT--A severe drought has occurred in Fengxin County since this spring. As compared with previous years, the precipitation collected in the county after June has dropped by about 30 percent. According to initial statistics, the drought-stricken area throughout the country had reached over 4,700 mou as of 14 June. To ensure bumper harvests of early rice and single-cropping late rice, the Fengxin County Party Committee called a timely meeting of its Standing Committee to map out specific measures to prevent and resist the drought. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 24 Jun 79 HK]

CSO: 4007

NEED TO COMBAT DROUGHT, PREVENT FLOODS STRESSED

Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 20 Jul 79 SK

[Text] At the present, the anti-flood work has entered a critical stage in our province. The Liaoning provincial guiding department to combat drought and prevent flood urges all localities to eliminate any notion of slackening vigilance and leaving things to chance and go into emergency action to do a good job in combating drought and preventing flood.

A responsible person of the Liaoning provincial guiding department to combat drought and prevent flood pointed out: Since the Liaoning provincial anti-flood conference, the work of making preparations for preventing flood has been carried out in an all round way in all localities; the anti-flood guiding organs have been established at all levels and measures for preventing flood have been implemented at high speed. There are, however, still some problems in need of immediate solution. For example, some anti-flood projects have not yet been completed, objects that block the water in rivers have not yet been removed and anti-flood equipment and materials have not yet been delivered to the areas where dangerous accidents are frequent in the monsoon season. If we do not solve these problems immediately, when the flood comes, we will be caught unprepared.

The main cause of such problems is that some cadres and masses lack adequate knowledge about the possibility that the greatest flood in the past 30 years might happen this year, and are slack in their vigilance leaving things to chance. Therefore, leaders at all levels should conduct propaganda and education on anti-flood work among the vast numbers of cadres and masses in order that they may become conscious of the need for flood prevention work.

In doing anti-flood work, it is necessary to adhere to uniformity. Both the upper and lower reaches of a river, both banks of a river, counties, towns, and communes must support each other and cooperate with each other. We must give due consideration to the situation as a whole, and eliminate departmental egotism.

Communes and brigades in mountainous areas should also do a good job in preparing for flood prevention. Drainage and anti-flood equipment should be installed around the villages where flood usually appears. All large- and small-sized reservoirs and water control stations should assign special persons to analyze and forecast the flood situation and provide, in time, a scientific basis for their forecasts.

CSO: 4007

BRIEFS

PADDY RICE TRANSPLANTATION--By 8 June, Liaoning Province had transplanted paddy rice seedlings on 4.88 million mu of land, 88 percent of the total acreage for paddy rice. [Shenyang Liaoning Provincial Service in Mandarin 2300 GMT 13 Jun 79 SK]

ANTI-FLOOD PREPARATIONS--[Editorial Report SK] Shenyang Liaoning Provincial Service in Mandarin at 1100 GMT on 17 July 1979 carries a 1,200-word recorded talk by (Liu Zongyi), deputy chief of the Liaoning provincial anti-drought and anti-flood command, entitled "Being Well Prepared To Combat a Possible Flood Is a Current Emergency Task That Brooks No Delay." He points out the importance of anti-flood work and calls on party organizations at all levels to strengthen their leadership in this respect. In preparing against floods, he says, it is necessary to uphold the idea that man can conquer nature and preparedness averts calamities. He urges that effective anti-flood measures be taken at various places and that ample materials be made available to meet the needs for combating possible floods. All cadres and masses, he says, should do their best to make this year's anti-flood struggle a real success.

CSO: 4007

DIVERSIFICATION IN GUYUAN PREFECTURE CONTINUES

Beijing RENMIN RIBAO in Chinese 26 May 79 p 1

[Article: "Guyuan Prefecture Develops Diversified Operation and Strengthens Collective Economy by Surveying the Resources, Formulating Plans, Doing What the Local Circumstances Dictate and Opening Wide the Patronage"]

[Excerpt] XINHUA, Yinchuan, 25 May--Guyuan Prefecture, a Hui nationality autonomous district in Ningxia, with a rather weak economic foundation has opened wide the patronage, developed diversified operation by doing what the local circumstances dictate and thus strengthened the collective economy, increased the commune members' income and achieved initial success. Delightful contributions have been made toward altering the countenance of poverty and backwardness.

The diversified operation of Guyuan Prefecture today include several tens of activities such as apiculture, raising rabbits, sheep and chickens, pisciculture, cultivation of medicinal herbs, pomiculture, cayene peppers, reed grass, hemp, sunflowers and collecting and weaving. Among them, apiculture and rabbit farming have developed most rapidly. A total of 103 communes of the entire prefecture established a total of 221 bee farms with a total production valued at 5.6 million yuan. The greater majority of the farm families took up rabbit farming. More than 770,000 live rabbits were bought up from the entire prefecture in 1978, valued at approximately 1.5 million yuan. With the progress of agriculture and the development of diversified operation the number of poor brigades having per-capita income of less than 40 yuan over the entire prefecture last year has dropped 1,100 from that of 1977. The average income of the commune members has increased 11 yuan over that of the year before last. Many communes and brigades bought farm machinery from the income of their diversified operation.

9113
CSO: 4007

BRIEFS

NINGXIA AGRICULTURE--Yinchuan, 13 Jun--The regional and prefectural party committees in Ningxia have paid close attention to popularizing typical experiences in developing agricultural production. As a result, the region's grain output has considerably increased in the past 2 years. One agricultural area in Ningxia irrigates its farmland with water diverted from the Yellow River. The farmland of this area accounts for only 20 percent of Ningxia's total acreage under cultivation but produces about 90 percent of its marketable grain. In this area, each peasant of the Xinhuaqiao commune, Lingwu County, produced 6,000 jin of grain and supplied 641 jin of marketable grain to the state in 1978. To popularize this commune's advanced experience, the Ningxia regional party committee called a meeting of party committee secretaries from 70 key communes early this year. In the area where farmland is irrigated with water diverted from the Yellow River, the wheat crop on more than 1.4 million mu is growing well and rice seedlings have been transplanted on over 600,000 mu of paddy fields. [Beijing XINHUA Domestic Service in Chinese 0125 GMT 13 Jun 79 OW]

CSO: 4007

BRIEFS

AGRICULTURAL MEETING--A provincewide discussion meeting was held recently in Xining, Qinghai Province, to study the plans for stepping up the flow of chemical fertilizer, insecticides and farm tools to the rural communes in support of agricultural production. During the first 4 months of this year, rural communes in Qinghai Province received 110,000 tons of chemical fertilizer, 700 tons of insecticides and 840,000 farm tools, which represented a considerable increase over the corresponding period of 1978. [Xining Qinghai Provincial Service in Mandarin 1430 GMT 13 Jun 79 OW]

CHEMICAL WEEDING--Qinghai Province has appropriated 4.8 million yuan to help communes and production brigades purchase chemicals for weeding this year. According to the provincial agricultural department, this project will continue for 3 years. Nearly 2 million mu of mountainous land in the province are constantly plagued by weeds. [Xining Qinghai Provincial Service in Mandarin 1430 GMT 14 Jun 79 OW]

LIVESTOCK BREEDING--At present, Qinghai Province has over 6,000 collective pig farms with some 153,000 head of pigs. [Beijing Domestic Service in Mandarin 1000 GMT 8 Jun 79 OW]

CSO: 4007

BRIEFS

ANTI-DROUGHT MEASURES--The Shaanxi Provincial CCP and Revolutionary Committees recently issued an emergency circular calling for combating drought and seizing bumper harvests. The circular pointed out that the current drought spell had continued in large areas in Shaanxi. Particularly recently the drought has become more serious every day. Now is the season for sowing late autumn crops. The circular called on leaders at all levels to grasp combating drought and crash planting late autumn crops as their central tasks. [Beijing Domestic Service in Mandarin 1000 GMT 23 Jun 79 OW]

CSO: 4007

BRIEFS

AGRICULTURAL MEETING--The Shandong Provincial Revolutionary Committee held a meeting from 20 to 25 June to discuss how to do a good job in surveying agricultural natural resources and zoning of agricultural areas. The meeting demanded that by 1982 all prefectures, municipalities and counties must have their own systematic, all-round, and comprehensive zoning program for agricultural areas and their plans for gradually realizing agricultural modernization in accordance with their specific local conditions. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 2 Jul 79 SK]

CSO: 4007

CATTLE AND YAK CROSSBREEDING PRODUCES DESIRABLE HYBRIDS

Beijing GUANGMING RIBAO in Chinese 31 May 79 p 2

[Article by Zhang Hangfu [1728 1137 1133]: "Successful Cross-breeding with Frozen Sperm of Fine Breeds of Cattle Produces Improved Yaks"]

[Text] The Sichuan Aba Tibetean Autonomous Prefecture Animal Husbandry Veterinary Science Research Institute and other concerned units have successfully used the frozen sperm of fine breeds of cattle to breed improved yaks.

The yak is a specialized breed of cattle which is found on high plains over 3,000 meters above sea level. Their distribution is the high pasturage of Tibet, Qinghai, Xinjiang, Gansu, Sichuan and Yunnan. The original variety is useful for meat, milk and draft work. They eat rough fodder, resist the cold, are large bodied and are very powerful. However, because of their low reproduction rate, late maturity and wild temperament they are not suitable for animal husbandry. In the past attempts were made to improve the breed by introducing ordinary cattle to the high plateaus, however they were unable to adjust to the high altitudes so the attempts resulted in failure. The technological personnel of the Aba Tibetean Autonomous Prefecture Veterinary Medicine Research Institute deeply entered into the pastures to sum up past experiences in improving yak breeds and proposed using frozen sperm of fine breeds of ordinary cattle. The fertilization of the yaks was carried out to provide a first generation of milk animals and a second generation of meat animals. This was done to improve the economic benefits. This plan was favorably received by the prefecture committee. In 1967, under the leadership of the Sichuan Provincial Science Committee, this institute together with the Sichuan provincial Animal Husbandry Veterinary Science Institute and other units organized the Sichuan Northern Plains Yak Breeding Cooperative Research Team and formulated a plan for breeding improved yaks and then gradually put the whole plan into widespread use. In 1978 the Aba expanded the plan from 5

points of improvement to 41 points. Many thousands of breedings of yaks and the offspring of bulls and female yaks with the frozen sperm of fine breeds of dairy and beef cattle have been made. The rate of successful impregnations is about 50 per cent and on the average 81 per cent of the calves survive, the highest rate being 96.3 per cent.

The calves produced by breeding yaks and the offspring of bulls and female yaks with the frozen sperm of fine breeds of ordinary cattle weigh about 30 kilograms at birth, once again as heavy as a yak calf. The improved variety has a pleasant temperament, has a good herd instinct and is no way inferior to the yak in its ability to consume coarse fodder, resist cold weather, climb mountains and cross bogs. They are completely suitable for animal husbandry on the high plateaus. The weight of a 1 1/2 year old improved variety animal raised on coarse fodder averages 258.8 kilograms and dresses out to 125.8 kilograms, 0.7 times heavier that a yak of comparable age. The meat of the improved variety is fine and tender, light colored, and tasty. It is heartily welcomed by the masses.

The technicians of the cooperating team conducted investigations and research involving gestation period diagnosis, pregnancy illnesses, calf nourishment and breeding physology. Because of the obvious accomplishments of these research projects this work received the 1978 Sichuan Provincial award for technological achievements.

11,582
CSO: 4007

BRIEFS

AGRICULTURAL PRODUCTION--The Xinjiang Regional Agricultural Bureau recently issued a circular calling on various rural areas to pay attention to field crop management in order to reap a bumper harvest this summer and an overall bumper harvest this year. The circular points out that spring sowing tasks have been completed in the main. The masses have overfulfilled their sowing task for cotton, while fulfilling sowing tasks for grain and oil-bearing crops. The circular notes that, at present, the growing conditions for summer-ripening grain and oil-bearing crops are generally better than last year. The circular also stresses the need to wipe out insects and the accumulation and application of manure. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 1 Jun 79 OW]

DROUGHT IN SOUTHERN XINJIANG--Since the beginning of spring, areas in southern Xinjiang have been affected by drought. The responsible persons of these areas have organized the masses to combat drought by using existing irrigation facilities to irrigate farmland. In addition, many new wells have been dug to tap underground water for irrigation. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 26 Jun 79 OW]

CSO: 4007

BRIEFS

XIZANG DROUGHT STRUGGLE--To effectively combat drought which has seriously hit Xizang since the advent of spring, the Xizang regional party and revolutionary committees recently held a meeting to make necessary arrangements for combating drought and protecting crop seedlings. The local cadres and masses were urged to immediately mobilize and to take effective steps to resist drought. For this purpose, an antidrought command was duly set up on 23 May. Meanwhile, the region's agricultural, farm machinery, supply, water conservancy, communications, finance and trade departments are doing everything possible to support the antidrought campaign. [Lhasa Xizang Regional Service in Mandarin 1350 GMT 31 May 79 OW]

DROUGHT PREVENTION--The Lhasa Municipal CCP and Revolutionary Committees in Xizang have organized the masses to combat drought in order to protect crops and reap a bumper harvest this year. Communes and brigades in Lhasa and other counties have set up command posts to combat drought by making full use of irrigation facilities. [Lhasa Xizang Regional Service in Mandarin 1350 GMT 4 Jun 79 OW]

XIZANG COMBATS DROUGHT--Despite sporadic rainfall in most counties, which has given temporary relief to some farming and livestock areas hard hit by dry spells, the overall drought problem is still far from being solved in Xizang region. In some areas, the drought may last until early July. The Xizang regional command for combating drought has called on all concerned not to relax their efforts but to continuously combat the current drought in order to seize bumper agricultural and livestock harvests for the whole year. [Lhasa Xizang Regional Service in Mandarin 1350 GMT 26 Jun 79 OW]

CSO: 4007

BRIEFS

AFFORESTATION CIRCULAR--The Yunnan Provincial Revolutionary Committee issued a circular on launching a summer afforestation movement. The circular demanded that all places quickly launch a massive shock afforestation movement throughout the province from now to the middle of July. It stresses publicizing and implementing the afforestation law and the policies concerning afforestation so that trees planted by different units and commune members in accordance with local conditions will belong to them. The circular also called on the revolutionary committees at all levels to strengthen leadership over afforestation, include the work in their daily agenda and make overall arrangements. [Kunming Yunnan Provincial Service in Mandarin 2315 GMT 20 Jun 79 HK]

CSO: 4007

II. PUBLICATIONS

TABLE OF CONTENTS OF 'SHOUYI ZAZHI', FEB 79

Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE VETERINARY JOURNAL] in Chinese No 2, Feb 79

[Text] SURVEYS: RESEARCH

EXCHANGE OF EXPERIENCES

LABORATORY

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